Library Classes

// Library class In java

- primitive and non primitive data type

- class is a composite and non primitive data type

byte - 1 byte

short - 2 byte

int - 4 byte

long - 8 byte

float - 4 byte

double - 8 byte

char - 2 byte

boolean - 1 byte

Number Systems

Binary - 2 [0 1]

Decimal - 10 [0 1 2 3 4 5 6 7 8 9]

Octal - 8 [ 0 1 2 3 4 5 6 7]

HexDecimal - [0 1 2 3 4 5 6 7 8 9 A B C D E F]

library class - contains similar type of packages java.lang... java.math

wrapper class - convert stings to primitive data type and vice versa , available in java wrapper class.

primitive | Wrapper Class

-----------------------------------------

int | Integer

char | Character

float | Float

long | Long

- int x = int.parseint(sa)

- int x = Int.valuOf(sa)

String sa = "135";

int y = Integer.valueOf(sa);

System.out.println(y + 55);

- parse can only take string and returns primitive datatype

- ValueOf can take anything and returns as object value

-

double let = 66.0;

String z = Double.toString(let);

- Autoboxing / boxing

- primitive value assigned to wrapper class

- Character obj = ch;

- int x = obj;

Character Functions

A - Z | 65 - 90

a - z | 97 - 122

0 - 9 | 48 - 57

' ' | 32

ch x = '5'

int y = (int) x;

System.out.println("The ASCII value of '" + x + "' is: " + asciiValue);

- bollean b = Character.isLetter(x);

char x = 'g';

boolean b = Character.isLetter(x);

System.out.println(b);

- bollean b = Character.isDigit(x);

- bollean b = Character.isLetterOrDigit(x);

- bollean b = Character.isUpperCase(x);

- bollean b = Character.isLowerCase(x);

- char b = Character.toLowerCase(x);

- char b = Character.toLowerCase(x);

- bollean b = Character.isWhitespace(x); // ' ' or '\n'

System.out.print("Enter a character: ");

char ch = scanner.nextLine.charAt(0);

//String Handelling

String st = " Name" ;

String st2 = "Hello" ;

String st4 = " no way home tonight ";

String st3 = "namE";

int[] x = {5, 10, 15};s

//st = st2

//st = "Hello"

int x = st.length() //returns length of string

ch x = st.charAt(2) // ' '

int x = st.indexOf('e') // 3

st2.lastIndexOf('l') // 3

String x = st.substring(2) // "me"

Sting x = st.substring(1, 3) // "ame"

st.toLowerCase() //"name"

st2.toUpperCase() // "HELLO"

st.replace('N', 'M') // "Mame"

st2.concat(st) // Hello Name

Boolean x = st.equals(srt2) // boolean

Boolean x = st.equalsIgnoreCase(st3) //

int x = st.compareTo(st3) // 0

int x = st.compareToIgnoreCase(st3) //1

Sting x = st4.trim() // "no white space"

Boolean x = st.startsWith('n') //False

Boolean x = st4.endsWith('t') // false

//User Defined Methods

- A method is a block of code that gets executed when called upon

- Features:

-- Code reusability

-- User defined methods

-- reduce complexity

-- reduce Length

public static void main (String [] args)

<specifiers> <Modifiers> <return\_type> method\_name (parameter 1, parameter2)

{

//code

}

Can be of two types

- static Method

- Non static Method

void display(int[] arr){

for (int i =0, i< x.length, i++)

{

System.out.println(arr [i]);

}

}

Two ways to call the method

- Call by reference

--The value given while calling the method is inserted in the Method.

- Call by value

--

// Arrays [ ]

Arrays - Collection of similar kinds of elements // similar data types.

Arrays is composite Data type

int [] marks = {50, 60, 80, 120, 55}

System.out.println(marks[5])

// 80

marks.length() will return the length of the array. //5

//How to input the values in the array?

i) directy create the array

int [] n = {5, 10, 15};

ii) declare the array then, using loop insert values according to usser input.

Scanner sc = new Scanner(System.in);

int [] m = new int[size];

System.out.println("Enter 5 values);

for (int i =0; i < a.length; i++)

a[i] = sc.nextInt();

// How to access the elements of the array?

i) directly say the element index you want

int [] marks = {50, 60, 80, 120, 55};

System.out.println(marks[2]);

ii)use a for loop to access one element after the other to print or use

// Q1 Write some java code to get 10 marks and find the average.

// Q2 Write some java code to get 10 marks and find the largest number.

//Class , basis of all objects

class - Blueprint

object - Instance of class

process of creating an object is called instantiation.

How to create an object of a class?

Classname obj = new Classname();

Scanner scanner = new Scanner (System.in);

ACCSESS SPECIFIER !! [Decides How parts of The classes can be accessed by other classes in the program]

Public - Accessible from anywhere in the program.

Default - Accessible only within the same package.

Private - Accessible only within the same class.

Protected - Accessible within the same package and its subclasses.

DATATYPES

Primitive

Numeric Data Types:

byte: Represents a single byte (8 bits) of signed integer data.

short: Represents a 16-bit signed integer.

int: Represents a 32-bit signed integer.

long: Represents a 64-bit signed integer.

float: Represents a 32-bit floating-point number.

double: Represents a 64-bit floating-point number.

Character Data Type:

char: Represents a single Unicode character (16 bits).

Boolean Data Type:

boolean: Represents a boolean value (true or false).

Non Primitive/ Reference Datatype

Arrays, String, Object, Classes

CLASSES - a user defined DataType which contains data and associated Functions Wrapped together

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